About the name of this journal . . .

The Brothers Brimley: North Carolina Naturalists

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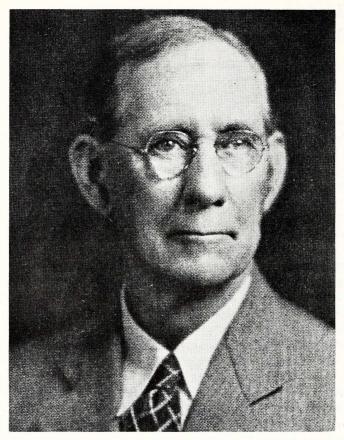
During the middle years of the nineteenth century two sons were born into a family of long time farmers living near Bedford in the midlands section of England, northwest of London. One made his appearance at the family home in the village of Willington, Bedfordshire, on March 7, 1861; the other, a "seven months" baby, arrived unexpectedly at the home of his maternal grandmother at Great Linford, Buckinghamshire, on December 18, 1863. In their early youth, as the younger of them was to write many years later, they "collected birds' eggs, caught small birds in brick traps in the winter, went fishing, and meddled with living creatures in general after the usual fashion of boys" and "had a reasonably good working knowledge of the wild life around us." No one could then have guessed, however, that these English farm lads would one day be recognized as two of the most remarkable naturalists of their time in the southeastern United States.

Their first step in this direction was initiated by misfortune and guided by chance. Agriculture in England had experienced a series of poor seasons in the 1870s, and by the end of the decade farm prices were at an all time low. The family faced the sad reality that its only hope for new beginnings lay in emigration to a distant land and made tentative plans for a move to Australia or Canada. But before their plans became final, an essentially accidental meeting with an official of the newly-formed North Carolina Department of Agriculture, Immigration and Statistics convinced them that America would be their Land of Opportunity.

Late on the night of December 31, 1880, Herbert Hutchinson Brimley, nearly 20 years old, and Clement Samuel Brimley, barely 17, having crossed the Atlantic by steamer to New York, arrived in Raleigh on the heels of a blizzard. With them were their parents, Joseph and Harriet, two sisters, and one of two living brothers. Their first stop was at a hotel which, less than a year later, became the Agriculture Building, the very place where they would ultimately labor for much of their lives. H.H. Brimley's remembrance of that time was written almost 50 years later:

"My first impression of Raleigh was that it was without question the damndest place I had ever seen. Expecting to jump directly into

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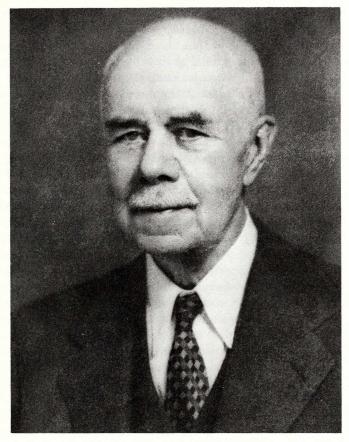


Clement Samuel Brimley December 18, 1863 — July 23, 1946

the justly celebrated Sunny South, irrespective of time of the year (December 31, 1880), I found a town with unpaved streets, ruts hub-deep, frozen solid and covered with snow, and the temperature down mighty close to zero. There were some board sidewalks, but military tanks or caterpillar tractors would have been the only suitable vehicles for negotiating those streets under the prevailing conditions.

"The hotel, later used as the Agriculture Building, was not equipped with running water, and that in the pitcher in the bedroom I occupied was frozen solid. We had to pull up the carpets and use them for blankets to keep from freezing to death the first night, no artificial heat being provided in the rooms. Bedford, even at the

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Herbert Hutchinson Brimley March 7, 1861 — April 4, 1946

time known as an educational center, had paved streets and running water in the houses. Raleigh depended on wells under the sidewalks equipped with wooden pumps for its public water supply. Backyard and frontyard wells and pumps supplied some of the more pretentious residences. In short, Bedford was a more or less finished town, for its time. Raleigh conveyed the impression of being comparatively raw—the cows and hogs roamed the streets, giving it something of a rural atmosphere. However, there was a restless, pulsing air about the place and its people that impressed me."

The Brimleys soon found that their new land was not exactly an agrarian paradise, and their attempts at farming the rocky Piedmont soil

near Method, between what is now west-central Raleigh and Cary, were of limited success. H.H. turned to teaching in a one-room log schoolhouse in House Creek Township near the site of present Meredith College, but this venture also ended in failure, at least partly because his English accent and the southern drawl of his students proved incompatible. In his words, "I will never know which of the three bodies were happier when I resigned—the school committee, the students or myself. We just could not understand each other."

Fortunately, although not endowed with much in the way of worldly possessions, H.H. and C.S. brought with them two incredibly inquisitive minds and an intense interest in nature developed in the hedgerows and fields of the Ouse River valley. Immediately upon arriving in their adopted land, and as time permitted between various unsuccessful attempts at earning a living, they set about studying its wild creatures, especially the birds. Sometime in 1882 or 1883 they came into possession of a 50-cent book entitled Taxidermy Without a Teacher, and began dabbling in the art of mounting and modeling animals. As their skills in this field developed, especially those of H.H., a whole new enterprise enabling them to indulge their love for the outdoors and natural history collecting opened before them, and they drifted into a business under the name of "Brimley Bros., Collectors and Preparers." In 1942 H.H. wrote, "Following our arrival in Raleigh in 1880 the main activity of my brother, C.S., and I in endeavoring to keep the justly celebrated wolf from the not-too-securely fastened door was a crude grade of custom taxidermy together with the collecting of bird skins and eggs for wealthy men in the big cities, who vied with each other over the comparative magnitude of their collections." As we shall see, these unsure commercial beginnings were the foundations of two outstanding careers in natural history.

At about the time the Brimleys were just beginning their "meddling with living creatures," and probably well before either had ever heard of North Carolina, a series of events was unfolding here, which, in retrospect, almost seemed tied to them by some arcane cosmic threads. They culminated in formation on March 12, 1877 of the N.C. Department of Agriculture, Immigration and Statistics, and appointment of the first commissioner of agriculture, Colonel Leonidas Lafayette Polk. Some time before assuming this office Polk had urged the State Grange to establish a central headquarters containing a "Patron's State Musuem" for the display of North Carolina's agricultural products. Shortly after becoming commissioner he began such a museum himself in a room adjoining his office in the Briggs Building on Fayetteville Street in Raleigh, which since 1875 had also housed the Geological Survey. Washington Caruthers Kerr, state geologist, was maintaining a mineral collection there, and often referred to it as the "geological museum" and even "state museum." There were, in effect, two distinct "state museums" under one roof, neither of them officially so designated. The mineral cabinet, however, was a legal state collection, dating at least to the mid-1850s when the General Assembly required Ebenezer Emmons, Kerr's predecessor, to establish such a display in the State Capitol. At any rate, on February 20, 1879 the legislature placed the survey under the jurisdiction of the Department of Agriculture and required the commissioner, "by and with the consent and advice of the Board of Agriculture" to keep a "museum or collection to illustrate the agricultural and other resources and the natural history of the State." The geological and agriculatural collections were thus combined under this broader mandate, and the State Museum was founded.

In 1881 the Department of Agriculture purchased the old National Hotel (site of the Brimleys' first Raleigh stop) to consolidate its offices. The museum was assigned part of the space for displays and other collections, which included the remnants of exhibits made by the Board of Agriculture at a number of expositions in this country and abroad. North Carolina's participation in such expositions had proved quite advantageous to a variety of economic enterprises, and the state's committment to them continued. As the time for the 1884 State Centennial Exposition at Raleigh approached, H.H. Brimley's growing reputation as a taxidermist and preparator came to the attention of the board, which was planning and assembling exhibits on North Carolina's resources. Consequently he was hired to mount a series of fishes for the display, under the direction of Stephen G. Worth, superintendent of fish and fisheries. Brimley also made a collection of waterfowl from Currituck Sound for this exposition, as recounted in "Old Times on Currituck," published in North Carolina Wildlife Conservation for March 1943.

The Brimley brothers' partnership became a going concern and gave them marvelous excuse to collect and study the animals of North Carolina, about which little was known at that time. Although they were in the natural history business to earn a living, their intellectual interests were not subordinated. 1884, in addition to being noteworthy as the year of H.H. Brimley's first employment by the Board of Agriculture, was also the year in which the brothers began publication of a series of notes on a new and exciting fauna. Initially their contributions concerned birds, and most appeared in the pages of *Ornithologist and Oölogist*. These were only the first efforts, however, in a long series of publications covering many topics in a noteworthy array of journals, magazines, and newspapers.

In 1890 planning began for participation in the great World's Columbian Exposition of 1893, and the State World's Fair Commission did not hesitate to select H.H. Brimley to collect and prepare native animals for the North Carolina exhibits. He assembled and installed the Fish and Fisheries Exhibit, which again included "aquatic birds," and remained with it in Chicago throughout the exposition. The voluminous collections gathered for the state's many displays, too excellent and valuable to discard or relegate to storage, were directed by legislative action to join the State Musuem upon their return to Raleigh. This further strained the holding capacity of its none-too-capacious quarters, although the available space had been nearly doubled by a minor addition in 1893, and the collections remained rather jumbled and unusable. Among the pile of materials were the disassembled bones of a Right whale known as "Mayflower," and in 1894, not long after returning from Chicago, H.H. Brimley was again hired by the board, this time for the singular task of articulating and mounting the 46-foot skeleton for display. Since the budget lacked money for such odd work he was hired under the job title of "fertilizer inspector," as shown in the expenditure ledgers for that year. The task took about three months, and this early piece of Brimley handiwork is still on display at the museum.

On April 15, 1895 the next logical step in the inexorable progression was taken, and a new era signalled for the State Museum, when H.H. Brimley was appointed its first full-time curator. He was also the sole employee and, as he wrote later, "I became expert with a feather duster and pushed a wicked carpet sweeper! I had no funds beyond my princely salary of \$75 per month." His title remained curator until 1928, when it was changed to director. H.H. continued to collect, prepare, ship, erect, and occasionally to man the North Carolina exhibits at major fairs and expositions. Each resulted in the addition of more and more collections to the State Museum and the accumulation of a store of information on North Carolina's natural history. An ever-growing fund of this information was put into print in papers by the Brimleys. Not yet employed by the state, C.S. mainly devoted his efforts to "Brimley Bros., Collectors and Preparers." H.H. also continued to work in the business on a parttime basis until 1907 or 1908, when he dropped out to devote his full energies to the growing museum. By this time he had an assistant curator, Tom Adickes, and a janitor, Bob Alston (who presumably relieved the curator of his feather duster and carpet sweeper). The museum now occupied the entire second floor of the Agriculture Building, as well as another annex added in 1897.

In those early days the museum's holdings, as listed in the 1897 Hand Book of the North Carolina State Museum, were diverse and even somewhat cosmopolitan. Emphasis, of course, was on the geological and agricultural resources of North Carolina, an immediate legacy of the

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blending of survey collections with those assembled by Commissioner Polk. By 1900, according to Curator Brimley's report for that year, the museum had accumulated "more than 100,000 specimens illustrative of North Carolina . . . ." Although many of the materials obviously provided data on the natural history of the state, there were at that time no collections maintained for purely scientific purposes. In this same report, however, H.H. provided a portent of things to come, saying, "The Zoological Department will be extended until the collections embrace specimens of all the animal life native to the State." And, "Attention will also be given to the flora of the State, and collections begun in that line. This feature is at present unrepresented in the Museum." From the time of this committment the museum moved steadily forward in most areas of natural history. The old "National Hotel" was demolished in 1922 to make way for a modern agriculture building, and the enlarged museum reopened there in 1925.

H.H. Brimley continued to publish occasional zoological papers almost until his death and received the singular honor in 1934 of being elected to full membership in the American Ornithologists' Union, joining a select assemblage of 150 of the nation's top students of birds. He was the only North Carolinian to enjoy this privilege for quite a long time. Nevertheless, his major talents were in areas other than technical reporting. His reputation as a preparator of specimens and exhibits climbed rapidly after he became curator of the State Museum. Among his many accomplishments, assisted by various co-workers, were the modeling of a giant Ocean sunfish which weighed 1200 pounds and was seven feet long and eight feet high; articulating and mounting the skeleton of a 54-foot Sperm whale estimated to weigh more than 50-tons in the flesh; modeling a 17-foot Beaked whale and its fetus; modeling parts of a 35foot Whale shark, and whole modeling a 14-foot Basking shark and a large Nurse shark; mounting and partially restoring the skeletal elements of a mammoth; and mounting hundreds of other animals used in showcase exhibits which he planned and prepared. He published a number of papers on his methods and techniques and presented talks on the same subjects at professional meetings. One such presentation, describing methods of obtaining, preparing, and mounting whale skeletons, was made at the 1929 meetings of the American Association of Museums and published in The Museum Years for November 1930. He was a lifelong member of the AAS and seldom missed its annual meetings, often attending at his own expense. He also belonged to the Museums' Association of Great Britain.

Throughout his life, even into old age, H.H. was an obsessive outdoorsman whose favorite activities included hunting and fishing, to which he brought a scholar's attentions. Because of his deep involvement in these pursuits he was an outspoken conservationist and advocate of strong, well-enforced laws for the protection of game and other animals. He characteristically led attempts to convince the legislature to end the confusing array of local statutes which he saw as working to the disadvantage of North Carolina's wildlife. It was not surprising, therefore, that he and T. Gilbert Pearson, founder of the National Association of Audubon Societies, were close, lifelong friends. The two met shortly after Brimley became curator of the museum, when Pearson was just emerging as one of America's pre-eminent ornithologists and conservationists. Judging from their correspondence they took particular delight in treating each other irreverently, and H.H. often sardonically addressed Pearson as "My Dear Boy."

In the early 1900s Pearson and the Brimleys collaborated on a major project, compiling data for and writing one of the first state bird books ever produced in the south—*Birds of North Carolina*. The first edition of this pioneer work, printed and ready for binding in 1913, was destroyed by fire in the printer's plant and the whole edition was lost before official publication. It finally appeared, with additional notes, in April 1919, published by the N.C. Geological and Economic Survey and profusely illustrated by Rex Brasher, Robert Bruce Horsfall, and Roger Tory Peterson. A second edition, published by the State Museum in 1942, quickly sold out. The third and final edition, revised by David L. Wray of the department's entomology division, and Harry T. Davis, the museum's second director, was published by the museum in 1959.

H.H. Brimley retired as director of the State Museum in 1937. As his replacement agriculture Commissioner W. Kerr Scott appointed Harry T. Davis, who had joined the staff in July 1920 as assistant curator and curator of geology. H.H. remained in the museum's employ as senior curator of zoology and stayed active until his death. During this period he did a great deal of work on the revised second edition of the bird book, published several scientific papers, and made two of his finest fish mounts (a 75-pound Channel bass and a 594-pound Blue marlin, then records for the east).

At the turn of the twentieth century, while exciting developments were occurring in the museum, a significant project was slowly and laboriously unfolding in another division of the Department of Agriculture. It added the vast realm of invertebrates, especially insects, to the fauna under study within the department, and involved C.S. Brimley nearly two decades before he became a state employee. Franklin Sherman, Jr. joined the Division of Entomology, and became North Carolina's first state entomologist in 1900. In addition to his duties in economic or applied

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entomology, he began at once to collect and catalogue the insects and other arthropods of the state. One of his major purposes was to have a collection which would "give as complete an idea as possible of the insect life of the State, showing the different stages of growth of each species, and the food upon which they live." By the time of Sherman's 1902 report the collection had grown to "30,000 specimens, which may be seen at any time in the office of the Museum building."

Early in the century Sherman began publishing information accumulated in the project, and by the end of the first decade had produced lists of North Carolina tiger beetles, tabanid flies, flat bugs, butterflies, scorpionflies, dragonflies, and grasshoppers and their relatives. Many ofthese papers were coauthored with C.S. Brimley while he was still a private entrepreneur. C.S. met Sherman about the time he became state entomologist, and Sherman, as C.S. later wrote, "revived my long flagging interest in insects." Their association developed into a lasting friendship, and in December 1919 C.S. entered the service of the Division of Entomology to take charge of the "Insect Survey." By this time data had accumulated on more than 5000 species known to occur in North Carolina, and Sherman and his group had prepared several hundred pages of manuscript "for what we hope may ultimately be a volume on 'The Insects of North Carolina,' in which every known species of insect in the State shall be listed."

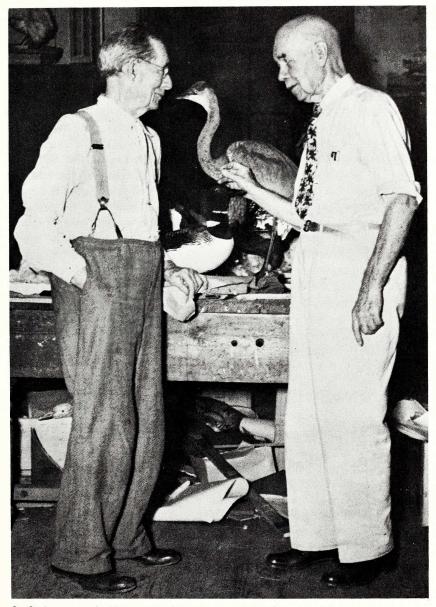
C.S. Brimley assiduously set about the task of expanding the collections and data files and enlarged their scope to include other members of the state's fauna. "When Mr. Brimley came into the state service," wrote Sherman in 1925, "he soon likewise card-catalogued the species of Batrachians, Reptiles, and Mammals of the state which have been recorded in papers by himself or others. With the Vertebrates thus on record, and the Insects in full swing, it was merely an incident to include the Invertebrates other than Insects." In addition to Sherman and Brimley, other workers on the "Insect Survey" through 1925 were J.C. Crawford, R.W. Leiby, C.L. Metcalf, Z.P. Metcalf, T.B. Mitchell, and M.R. Smith.

In most respects C.S. was the more scientifically oriented of the Brimley brothers and kept remarkably detailed records on southeastern fauna and flora for more than 60 years. By the time he joined the department he was already widely published in a number of journals, and his amazing expertise, largely self-taught, extended to entomology, herpetology, mammalogy, ornithology, and botany. He was also quite knowledgeable about many invertebrate groups other than insects. In short, he was a virtuoso naturalist, whose "main interest for many years zoologically," as he wrote in 1925, "has been to gain and disseminate knowledge about the fauna of North Carolina, both vertebrates and invertebrates, with especial regard to Herpetology and Entomology, an interest very largely inspired and stimulated by Mr. Sherman."

C.S. Brimley's first publications were a number of ornithological notes on which he appeared as junior author with his older brother, starting with "Notes from middle North Carolina" in the October 1884 issue of *Ornithologist and Oölogist*. From then through 1894 he published another 70 brief solo notes, most of them in this same publication (which became defunct in 1893), and a few in the Auk. He became active in herpetology around 1890 and said that he was greatly helped by David Starr Jordan's Manual of Vertebrates, which for a number of years was his "vertebrate 'Bible'." His first non-ornithological publication apparently was the 1895 "List of snakes observed at Raleigh, N.C.," in the American Naturalist. During the next few years he published papers on amphibians, fishes, and larval insects, more on reptiles and birds, lists of mammals of Raleigh and of Bertie County, and a 32-page descriptive catalogue of the mammals of the state. He also collaborated with Sherman on many of the insect lists.

As his notebooks on file in the State Museum archives show, C.S. kept painstaking and meticulous records of all bird movements that occurred in his vicinity. He published several summary papers on this subject, including the 1917 "Thirty-two years of bird migration at Raleigh, North Carolina," in the Auk. On December 1, 1930 he was awarded a certificate from the Biological Survey, U.S. Department of Agriculture, in recognition of his 46 years of bird migration studies from 1885 to 1930. The earlier records provided much of the migration data for Birds of North Carolina.

In the course of his studies of the southeastern herpetofauna, C.S. Brimley described several new species and subspecies. The first of these were two salamanders named in 1912-Plethodon metcalfi, after another pioneer North Carolina scientist and co-worker Z.P. Metcalf, and the subspecies Spelerpes (now Pseudotriton) ruber schencki, for C.A. Schenck, director of the Biltmore Forest School. In 1924 C.S. recognized the endemic waterdog (an aquatic salamander) of the Neuse and Tar rivers as a distinct subspecies, Necturus maculosus lewisi, naming it for Frank B. Lewis who provided most of his specimens. A South Carolina salamander, Plethodon clemsonae, followed in 1927, and two turtles in 1928-Pseudemys (now Chrysemys) vioscana from Louisiana, named for the naturalist Percy Viosca, Jr., and the subspecies P. concinna elonae from a pond in Guilford County not far from Elon College. However, only two of his new forms have stood the test of time and further taxonomic studies. Necturus lewisi was elevated to full species status in 1937 by Viosca, and Pseudotriton ruber schencki is still recognized as a valid subspecies by some authorities



C. S. Brimley (left) and H. H. Brimley (right) in the basement preparation shop of the State Museum around 1944.

although questioned by others. As would be expected C.S. also described many insect species, primarily in the orders hymenoptera and diptera. These included 13 psammocharid and 5 sphecid wasps, one each of stratiomyid, cyrtid, conopid, sarcophagid and ortalid flies, and 4 asilid, 3 syrphid and 2 sciomyzid flies.

C.S. was a prolific writer who, before his career ended, published well over 150 papers, notes and booklets on vertebrates, over 40 on invertebrates, a 17-page paper on zoogeography, a partial bibliography of North Carolina zoology, many popular natural history articles and accounts, and a group of outlines for zoology lectures at the Biltmore School. In addition to coauthoring the bird book with Pearson and his brother, he wrote The Insects of North Carolina, which grew out of the early manuscript begun by Sherman and others and included 35 years of records on 9611 species. It was published in 1938 by the Department of Agriculture. He also compiled the first supplement to this work, published in 1942. A major summary of the amphibians and reptiles of North Carolina, originally published as an annotated and illustrated series in Carolina Tips from 1939 through 1943, was printed as a compilation by Carolina Biological Supply Company in 1944. A similar collection of North Carolina mammal accounts, written between 1944 and 1946, appeared in 1946. Two installments toward a comprehensive series on fishes of the state were published in the same outlet, but this project was interrupted by C.S.'s death.

His publications also included a 20-year history of the North Carolina Academy of Science. He and H.H. were founders of the Academy, and C.S. was the only person without a college degree to ever serve as its president. They were founders and life members, too, of the Raleigh Natural History Club, and helped organize the Raleigh Bird Club and the North Carolina Bird Club (now the two-state Carolina Bird Club).

In recognition of his outstanding contributions to the natural sciences, on June 7, 1938 the University of North Carolina conferred on C.S. Brimley the honorary degree of Doctor of Laws. This honor was all the more remarkable in light of the fact that, while far from unlettered, both the Brimley brothers were largely unschooled in any formal sense. H.H. spent eight years in the Bedford County School at Elstow, excelling in mathematics, football, and swimming, but left for a clerical job in Howard's Iron Works before receiving a certificate. C.S. was educated in the "common schools of Willington" until 1877, then attended the Bedford County School through the close of the second term in July 1880. "Attained the highest honors to be gained at that school," he wrote, "my education on leaving being equivalent at least to completing a high grade High School course or perhaps Freshman year in college." One writer, W.T. Bost, later said that C.S. "had the sort of genius which made him a great scientist without asking anything of the schools." Then, in reference to his honorary doctorate, Bost added, "The University thinks it gave him a degree; but in a larger sense he gave it one."

H.H. Brimley died at Rex Hospital on April 4, 1946, age 85, probably the oldest active state employee in North Carolina's history. C.S. Brimley died at his home a little over three months later, on July 23, 1946, while dressing to go to his office in the Agriculture Building. Their productive careers were dedicated to the Department of Agriculture; H.H. was associated with the State Museum for over 60 years, 43 of them as director, and C.S. with the Division of Entomology for at least 45 years, nearly 27 of them as an employee. Their service to the state of North Carolina and its people, of course, cannot be measured in any such ordinary time frame. They had a very profound influence on the scientific and educational development of natural history in the southeast, particularly in their chosen state, perhaps more than any other naturalists of their time. The firm and enviable foundation which they laid was witnessed in a letter of April 12, 1946 to C.S. from a friend in Charlottesville, Virginia. "Both of you," he said, "have done a tremendous amount for the state in stimulating it to go ahead with various things. Virginia has no such museum, nor a collection of insects, nor such a bird book, or a catalogue of its mammals-and a lot of other things are lacking because Virginia had no Brimley brothers."

As a measure of the esteem in which these men were held by their colleagues and other specialists who came later and appreciated their contributions, a number of animals were named for them. These included the fish *Notropis brimleyi*, the frog *Pseudacris brimleyi*, the salamander *Desmognathus brimleyorum*, the millipeds *Deltotaria brimlei* and *D. brimleardia*, and the hymenoptera *Pedinaspis brimleyi*, *Halictus brimleyi*, *Colletes brimleyi*, and *Ephuta pauxilla brimleyi*.

Tributes to their influence on young naturalists, many of whom later became outstanding scientists, are numerous. One of America's leading ecologists, Eugene P. Odum (now Alumni Foundation Distinguished Professor of Zoology and director of the Institute of Ecology at the University of Georgia), wrote in the preface to his 1949 compilation of H.H.'s writings, 'I well remember my first visit with H.H. Brimley, when I was a young high-school student. He took me under his wing and made me feel at home immediately. The enthusiasm and sincerity with which he worked and talked impressed me especially. In fact, H.H. Brimley and his brother C.S. did more than anyone else to encourage me to develop my interest in birds which later led me to go into teaching and research in biology as a career."

A friend in England once wrote to H.H. Brimley: "But what a life you have had, and what an interesting one; it was built for you and fitted your

nature and inclinations; you must have reveled in it. It must have meant any amount of strenuous effort; but after all, that is the gist of life, and makes life worth living." These comments rather adequately summarized the lives of both these gifted men. They came here as immigrant lads from England and through diligence and dedication gave North Carolinians, and indeed in a larger sense all Americans, the great legacy of a wealth of knowledge about our natural heritage. This journal is dedicated to their memory.

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SOURCES .- Quotations whose specific sources are not identified in the text are from correspondence, unpublished manuscripts, and scripts and sketches of various kinds contained in the archives of the North Carolina State Museum of Natural History. The photographs are also from these archives. Some information on H.H. Brimley came from brief biographical sketches by Harry T. Davis (1946. J. Elisha Mitchell Sci. Soc. 62:128-129) and C.S. Brimley (1946. Chat 10:42-43). Developments in the Department of Agriculture were obtained from biennial reports of the Board of Agriculture and the commissioner of agriculture published in Raleigh. Franklin Sherman's comments anent the Insect Survey are from biennial reports and from "Progress on State Insect Survey with comparative data on other animal groups" (1925. J. Elisha Mitchell Sci. Soc. 41:129-134). The comments by W.T. Bost are from the Greensboro Daily News, 27 July 1946. Information on Commissioner Polk mostly came from Stuart Noblin's two-part article, "Leonidas Lafayette Polk and the North Carolina Department of Agriculture" (1943. N.C. Historical Review XX:103-121, 197-218). Some of H.H. Brimley's writings, including verse, were compiled and annotated by E.P. Odum (1949. A North Carolina Naturalist, H.H. Brimley. Univ. North Carolina Press, Chapel Hill). Additional information on the Brimley brothers is contained in a history of the Department of Agriculture's involvement in natural history studies prepared by John B. Funderburg and me (in manuscript).

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